

# List of Plant Species Present on Forest Permanent Sample Plots in Interior and Southcentral Alaska

THOMAS MALONE,<sup>1</sup> CF, EDMOND C. PACKEE SR.,<sup>2</sup> PHD, CF, AND JINGJING LIANG,<sup>3</sup> PHD, CF



Permanent Sample Plot 24B, a white spruce and aspen stand on the Nenana Ridge. The plot was established in 1995, this photo taken in 2005. Four pictures are taken from the northwest corner of each PSP during each site establishment and subsequent remeasurements (every five years). The first picture is taken with the camera pointed toward the northeast corner. The second picture is taken with the camera pointed at PSP center. The third picture is taken with the camera pointed at the southwest corner. The fourth picture is taken pointing up toward the sky to show crown cover.

—Photo by Thomas Malone.



## Introduction

In 1994 the University of Alaska Fairbanks, School of Natural Resources and Agricultural Sciences, Agricultural and Forestry Experiment Station began a project to establish permanent sample plots (PSP) throughout the forests of northern and southcentral Alaska. Objectives of the project are to establish and maintain a system of PSPs to monitor forest growth, yield, forest health, and ecological conditions/change (Malone et al., 2009).

To date, 603 PSPs have been established on 201 sites throughout interior and southcentral Alaska. The PSPs are square and 0.1 acre in size and in clusters of three. PSPs are remeasured at a five-year interval. The number of plot remeasurements after establishment ranges from one to three times.

A large amount of data is collected at each site at time of establishment and at subsequent remeasurements. Four databases contain all the data: tree measurement and characteristics, site description, regeneration, and vegetation data.

Vegetation data collected on the 0.1 acre PSPs includes species (trees shrub, herb, grass, and non-vascular plants) and cover, an estimate of the amount of the plot covered by the crown of each species (cover class) (Daubenmire, 1959). The vegetation database can be used by land managers and researchers to study species diversity and forest succession in addition to long-term monitoring of forest health.

The species listed in Appendix 1 and in the vegetation database are presented by categories: tree, shrub, herb, grass, rush, sedge, fern, club moss, lichen, moss, and liverwort.

The PSP databases are available by contacting Tom Malone at [tmalone@alaska.edu](mailto:tmalone@alaska.edu).

## Acknowledgements

This project is supported by the University of Alaska, School of Natural Resources and Agricultural Sciences, and a federal McIntire-Stennis Fund Grant. In addition to the plant identification books listed in this publication, we would like to thank Dr. Patricia Holloway and Ms. Carolyn Parker of the University of Alaska Fairbanks and Dr. Teresa Hollingsworth of the US Forest Service for assisting in plant identification. We also acknowledge the students and technicians who helped with data collection since 1994.

1. Research Forester, School of Natural Resources and Agricultural Sciences, University of Alaska Fairbanks, Alaska; corresponding author.

2. Professor of Forest Management, Emeritus, School of Natural Resources and Agricultural Sciences, University of Alaska Fairbanks, Alaska.

3. Assistant Professor of Forest Ecology, Division of Forestry and Natural Resources, West Virginia University, Morgantown, West Virginia.

## Literature Cited

- Collet, D.M. 2004. *Willows of Interior Alaska*. USDI, Fish and Wildlife Serv.
- Daubenmire, R. 1959. A canopy-coverage method of vegetation analysis. *Northwest Sci.* 33: 43–66, Seattle, Washington.
- Hulten, E. 1968. *Flora of Alaska and Neighboring Territories: A Manual of the Vascular Plants*. Stanford University Press, Stanford, California.
- Johnson, D., L. Kershaw, A. MacKinnon, and J. Pojar. 1995. *Plants of the Western Boreal Forest and Aspen Parkland*. Lone Pine Publishing, Edmonton, Alberta: Canada.
- MacKinnon, A., J. Pojar, and R. Coupe. 1999. *Plants of Northern British Columbia*. Lone Pine Publishing, Edmonton, Alberta.
- Malone, T., J. Liang, and E.C. Packee. 2009. Cooperative Alaska Forest Inventory. USDA For. Serv. PNW-GTR-785.
- Pojar, J. and A. MacKinnon. 1994. *Plants of Coastal British Columbia*. Lone Pine Publishing, Edmonton, Alberta.
- Pratt, V.E. 1991. *Wildflowers Along the Alaska Highway*. Alaskakrafts, Inc., Anchorage, Alaska.
- USDA, NRCS. 2012. The PLANTS Database (<http://plants.usda.gov>). National Plant Data Team, Greensboro, NC 27401-4901 USA.
- Vitt, D.H., J.E. Marsh, and R.B. Bovey. 1988. *Mosses, Lichens and Ferns of Northwest North America*. Lone Pine Publishing, Edmonton, Alberta.
- Viereck, L.A. and E.L. Little, Jr. 1972. *Alaska Trees and Shrubs*. USDA For. Serv. Agric. Handbook No. 410.

PSP 264B is a birch and white spruce stand near Trapper Creek. PSP established in 2000; photo in 2010.

—Photo by Thomas Malone.



# Appendix 1. List of Plant Species Present in PSPs in Interior and Southcentral Alaska.

Vegetation Class	Species Code	Scientific Name	Common Name
Trees			
	BETKEN	<i>Betula kenaica</i>	Kenai birch
	BETNEO	<i>Betula neoalaskana</i>	Alaska birch
	LARLAR	<i>Larix laricina</i>	tamarack
	PICGLA	<i>Picea glauca</i>	white spruce
	PICLUT	<i>Picea X lutzii</i>	Lutz spruce
	PICMAR	<i>Picea mariana</i>	black spruce
	POPBAL	<i>Populus balsamifera</i> , includes ssp <i>trichocarpa</i>	balsam poplar, includes black cottonwood
	POPTRE	<i>Populus tremuloides</i>	aspen
	TSUMER	<i>Tsuga mertensiana</i>	mountain hemlock
Understory Regen			
	BETKEN-R	<i>Betula kenaica</i>	Kenai birch
	BETNEO-R	<i>Betula neoalaskana</i>	Alaska birch
	PICGLA-R	<i>Larix laricina</i>	tamarack
	LARLAR-R	<i>Picea glauca</i>	white spruce
	PICLUT-R	<i>Picea X lutzii</i>	Lutz spruce
	PICMAR-R	<i>Picea mariana</i>	black spruce
	POPBAL-R	<i>Populus balsamifera</i> , includes ssp <i>trichocarpa</i>	balsam poplar, includes black cottonwood
	POPTRE-R	<i>Populus tremuloides</i>	aspen
	TSUMER-R	<i>Tsuga mertensiana</i>	mountain hemlock
Shrubs			
	ALNTEN	<i>Alnus incana</i> subssp. <i>tenuifolia</i>	mountain alder
	ALNVIR	<i>Alnus viridis (crispa)</i>	green alder
	AMEALN	<i>Amelanchier alnifolia</i>	serviceberry
	ANDPOL	<i>Andromeda polifolia</i>	bog-rosemary
	ARCRUB	<i>Arctostaphylos rubra</i>	red-fruit bearberry
	ARCUVA	<i>Arctostaphylos uva-ursi</i>	bearberry
	BETGLA	<i>Betula glandulosa</i>	resin birch
	BETNAN	<i>Betula nana</i>	dwarf birch
	CASTET	<i>Cassiope tetragona</i>	four-angled mountain heather
	CHACAL	<i>Chamaedaphne calyculata</i>	leatherleaf
	COMPAL	<i>Comarum palustre (Potentilla palustris)</i>	marsh cinquefoil
	DASFRU	<i>Dasiphora fruticosa (Potentilla fruticosa)</i>	shrubby cinquefoil
	DRYINT	<i>Dryas integrifolia</i>	entireleaf mountain avens
	DRYOCT	<i>Dryas octopetala</i>	white mountain avens
	EMPNIG	<i>Empetrum nigrum</i>	crowberry

	JUNCOM	<i>Juniperus communis</i>	common juniper
	JUNHOR	<i>Juniperus horizontalis</i>	creeping juniper
	LEDGRO	<i>Ledum groenlandicum</i>	Labrador tea
	LEDPAL	<i>Ledum palustre</i>	marsh Labrador tea
	LINBOR	<i>Linnaea borealis</i>	twin flower
	MENFER	<i>Menziesia ferruginea</i>	rusty menziesia
	OPLHOR	<i>Oplopanax horridus</i>	devils club
	RHOLAP	<i>Rhododendron lapponicum</i>	Lapland rosebay
	RIBGLA	<i>Ribes glandulosum</i>	skunk currant
	RIBHUD	<i>Ribes hudsonianum</i>	northern black currant
	RIBLAC	<i>Ribes lacustre</i>	black swamp gooseberry
	RIBTRI	<i>Ribes triste</i>	red swamp currant
	ROSACI	<i>Rosa acicularis</i>	prickly rose
	ROSNUT	<i>Rosa nutkana</i>	Nookta rose
	RUBARC	<i>Rubus arcticus</i>	nagoonberry
	RUBCHA	<i>Rubus chamaemorus</i>	cloudberry
	RUBIDA	<i>Rubus idaeus</i>	red raspberry
	RUBPED	<i>Rubus pedatus</i>	five-leaved bramble
	SALARC	<i>Salix arctica</i>	arctic willow
	SALBEB	<i>Salix bebbiana</i>	Bebb willow
	SAMMYR	<i>Salix myrtilifolia</i>	blueberry willow
	SALPUL	<i>Salix pulchra</i>	diamond-leaf willow
	SALRET	<i>Salix reticulata</i>	netleaf willow
	SALspp	<i>Salix species</i>	
	SAMRAC	<i>Sambucus racemosa</i>	red elderberry
	SHECAN	<i>Shepherdia canadensis</i>	soapberry
	SORSCO	<i>Sorbus scopulina</i>	western mountain-ash
	SPIBEA	<i>Spiraea beauverdiana</i>	Beauverd's spirea
	VACCAE	<i>Vaccinium caespitosum</i>	dwarf blueberry
	VACOVA	<i>Vaccinium ovalifolium</i>	oval-leaf blueberry
	VACCOXY	<i>Vaccinium oxycoccos</i>	bog cranberry
	VACULI	<i>Vaccinium uliginosum</i>	bog blueberry
	VACVIT	<i>Vaccinium vitis-idaea</i>	lingonberry
	VIBEDU	<i>Viburnum edule</i>	highbush cranberry

### Herbs

	ACHMIL	<i>Achillea millefolium (borealis)</i>	yarrow
	ACODEL	<i>Aconitum delphinifolium</i>	monkshood
	ACTRUB	<i>Actaea rubra</i>	baneberry
	ALLSCH	<i>Allium schoenoprasum</i>	wild chive
	ANECAN	<i>Anemone canadensis</i>	Canada anemone
	ANEMUL	<i>Anemone multifida</i>	cut-leaf anemone
	ANEPAR	<i>Anemone parviflora</i>	northern anemone
	ANERIC	<i>Anemone richardsonii</i>	yellow anemone
	ANGLUC	<i>Angelica lucida</i>	kneeling angelica

	ANTPUL	<i>Antennaria pulcherrima</i>	showy pussytoe
	ARAHOL	<i>Arabis holboellii</i>	Holboell's rockcress
	ARCALP	<i>Arnica alpina</i>	alpine arnica
	ARNLES	<i>Arnica lessingii</i>	nodding arnica
	ARTTIL	<i>Artemisia tilesii</i>	mountain sagewort
	ASTALP	<i>Aster alpinus</i>	alpine aster
	ASTAME	<i>Astragalus americanus</i>	American milkvetch
	ASTUMB	<i>Astragalus umbellatus</i>	tundra milkvetch
	BOSROS	<i>Boschniakia rossica</i>	broom rape
	BOYRIC	<i>Boykinia richardsonii</i>	Richardson's brookfoam
	BUPAME	<i>Bupleurum americanum (triradiatum)</i>	throw wax
	CALBUL	<i>Calypso bulbosa</i>	fairy slipper
	CAMLAS	<i>Campanula lasiocarpa</i>	mountain harebell
	CAMROT	<i>Campanula rotundifolia</i>	common harebell
	CASTET	<i>Cassiope tetragona</i>	Lapland cassiope
	CASCAU	<i>Castilleja caudata</i>	pale indian paintbrush
	CASUNA	<i>Castilleja unalaschcensis</i>	unalaska paintbrush
	CHAANG	<i>Chamerion angustifolium (Epilobium angustifolium)</i>	fireweed
	CIRALP	<i>Circaea alpina</i>	enchanter's nightshade
	CNICNI	<i>Cnidium cnidiifolium</i>	Jakutsk snow parsley
	CORTRI	<i>Corallorrhiza trifida</i>	yellow coralroot
	CORCAN	<i>Cornus canadensis</i>	bunchberry
	CORAUR	<i>Corydalis aurea</i>	golden corydalis
	CORPAU	<i>Corydalis pauciflora</i>	fewflower fumewort
	CYPPAS	<i>Cypripedium passerinum</i>	Franklin's lady's slipper
	DELBRA	<i>Delphinium brachycentrum</i>	northern larkspur
	DELGLA	<i>Delphinium glaucum</i>	larkspur
	DODFRI	<i>Dodecatheon frigidum</i>	northern shooting star
	DROROT	<i>Drosera rotundifolia</i>	round-leaved sundew
	EQUARV	<i>Equisetum arvense</i>	common horsetail
	EQUpra	<i>Equisetum pratense</i>	meadow horsetail
	EQUsci	<i>Equisetum scirpoides</i>	dwarf scouring rush
	EQUsyl	<i>Equisetum sylvaticum</i>	wood horsetail
	EURSIB	<i>Eurybia sibirica (Aster sibiricus)</i>	arctic aster
	FRAVIR	<i>Fragaria virginiana</i>	wild strawberry
	GALBOR	<i>Galium boreale</i>	northern bedstraw
	GALTRI	<i>Galium triflorum</i>	small bedstraw
	GENPRO	<i>Gentiana propinqua</i>	four-part dwarf gentian
	GEOLIV	<i>Geocaulon lividum</i>	bastard toad flax
	GERERI	<i>Geranium erianthum</i>	northern geranium
	GOOREP	<i>Goodyera repens</i>	rattlesnake plantain
	HEDALP	<i>Hedysarum alpinum</i>	alpine sweet-vetch
	HERMAX	<i>Heracleum maximum (lanatum)</i>	common cow parsnip

HIETRI	<i>Hieracium triste</i>	woolly hawkweed
IRISET	<i>Iris setosa</i>	wild flag
LATPAL	<i>Lathyrus palustris</i> (introduced species)	marsh peavine
LISCOR	<i>Listera cordata</i>	heartleaf twayblade
LUPARC	<i>Lupinus arcticus</i>	arctic lupine
MAISTE	<i>Maianthemum stellatum</i> ( <i>Smilacina stellata</i> )	starry false lily of the valley
MERPAN	<i>Mertensia paniculata</i>	bluebells
MIMGUT	<i>Mimulus guttatus</i>	yellow monkey-flower
MOELAT	<i>Moehringia lateriflora</i>	sandwort
MONUNI	<i>Moneses uniflora</i>	single delight
ORTSEC	<i>Orthilia secunda</i>	one-sided wintergreen
OSMDEP	<i>Osmorhiza depauperata</i>	blunt-fruited sweet-cicely
OXYCAM	<i>Oxytropis campestris</i>	locoweed
PARPAL	<i>Parnassia palustris</i>	grass-of-parnassus
PEDCAP	<i>Pedicularis capitata</i>	capitate lousewort
PEDLAB	<i>Pedicularis labradorica</i>	Labrador lousewort
PEDLAN	<i>Pedicularis langsдорffii</i>	Langsdorf's lousewort
PEDVER	<i>Pedicularis verticillata</i>	whorled lousewort
PETFRI	<i>Petasites frigidus</i>	goosefoot
PETHYP	<i>Petasites hyperboreus</i>	arctic sweet coltsfoot
PETSAG	<i>Petasites fridigus</i> var. <i>sagittatus</i>	arrow-leaved coltsfoot
PLAHYP	<i>Platanthera hyperborea</i>	bog orchid
PLAOBT	<i>Platanthera obtusata</i>	one-leaved rein-orchid
POLACU	<i>Polemonium acutiflorum</i>	tall Jacob's ladder
POLBOR	<i>Polemonium boreale</i>	northern Jacob's ladder
POLPUL	<i>Polemonium pulcherrimum</i>	showy Jacob's ladder
POLALA	<i>Polygonum alaskanum</i>	Alaska wild rhubarb
POLVIV	<i>Polygonum viviparum</i>	alpine bistort
PRIINC	<i>Primula incana</i>	silvery primrose
PRITSC	<i>Primula tschuktschorum</i>	Chukchi primrose
PULPAT	<i>Pulsatilla patens</i>	pasque flower
PYRASA	<i>Pyrola asarifolia</i>	pink wintergreen
PYRCHL	<i>Pyrola chlorantha</i>	green wintergreen
PYRGRA	<i>Pyrola grandiflora</i>	grandflowered wintergreen
PYRMIN	<i>Pyrola minor</i>	lesser wintergreen
RANFLA	<i>Ranunculus flammula</i> ( <i>reptans</i> )	creeping buttercup
RANGME	<i>Ranunculus gmelini</i>	small yellow water buttercut
RANLAP	<i>Ranunculus lapponicus</i>	Lapland buttercup
RANNIV	<i>Ranunculus nivalis</i>	snow buttercup
RHOROS	<i>Rhodiola rosea</i> ( <i>Sedum rosea</i> )	roseroot stonecrop
RORISL	<i>Rorippa islandica</i>	marsh yellow cress
RUMARC	<i>Rumex arcticus</i>	arctic dock
SANCAN	<i>Sanguisorba canadensis</i> ( <i>stipulata</i> )	Canadian burnet
SANOFF	<i>Sanguisorba officinalis</i>	great burnet



	SAUANG	<i>Saussurea angustifolia</i>	narrowleaf saw-wort
	SENLUG	<i>Senecio lugens</i>	small black-tipped groundsel
	SENTRI	<i>Senecio triangularis</i>	arrow-leaved groundsel
	SENVUL	<i>Senecio vulgaris</i>	common groundsel
	SOLMUL	<i>Solidago multiradiata</i>	northern goldenrod
	SOLSIM	<i>Solidago simplex (decumbens)</i>	dwarf goldenrod
	SPIROM	<i>Spiranthes romanzoffiana</i>	lady's tresses
	STECRA	<i>Stellaria crassifolia</i>	fleshy starwort
	STELOF	<i>Stellaria longifolia</i>	longleaf starwort
	STELOP	<i>Stellaria longipes (laeta)</i>	longstalk starwort
	STEMED	<i>Stellaria media</i>	chickweed
	STRAMP	<i>Streptopus amplexifolius</i>	twistedstalk
	SYMBOR	<i>Symphyotrichum boreale (Aster junciformis)</i>	marsh aster
	TAROFF	<i>Taraxacum officinale</i>	common dandelion
	THAALP	<i>Thalictrum alpinum</i>	alpine meadowrue
	THASPA	<i>Thalictrum sparsiflorum</i>	few-flower meadowrue
	TRIEUR	<i>Trientalis europaea</i>	European starflower
	VALCAP	<i>Valeriana capitata</i>	capitate valerian
	VERVIR	<i>Veratrum viride</i>	false hellebore
	VIOEPI	<i>Viola epipsila</i>	dwarf marsh violet
	VILPAL	<i>Viola palustris</i>	marsh violet
	ZIGELE	<i>Zigadenus elegans</i>	mountain deathcamas
<b>Grass</b>			
	CALCAN	<i>Calamagrostis canadensis</i>	bluejoint
	EYLspp	<i>Elymus species</i>	wildrye
	FESALT	<i>Festuca altaica</i>	altai fescue
	POAARC	<i>Poa arctica</i>	arctic bluegrass
	POAGLA	<i>Poa glauca</i>	glaucous bluegrass
	POAPAL	<i>Poa palustris</i>	fowl bluegrass
	POASEC	<i>Poa secunda (juncifolia)</i>	Sandberg bluegrass
	POAspp	<i>Poa species</i>	bluegrass
	grass	grass species	
<b>Rush</b>			
	JUNspp	<i>Juncus species</i>	
<b>Sedge</b>			
	CARGLA	<i>Carex glacialis</i>	glacial sedge
	CARspp	<i>Carex species</i>	
	ERiang	<i>Eriophorum angustifolium</i>	narrow-leaved cotton grass
	ERIBRA	<i>Eriophorum brachyantherum</i>	close-sheathed cotton grass
	ERIspp	<i>Eriophorum species</i>	
	sedge	sedge species	
<b>Fern</b>			
	ATHFIL	<i>Athyrium filix-femina</i>	lady fern
	DRYEXP	<i>Dryopteris expansa</i>	spreading wood fern

	GYMDRY	<i>Gymnocarpium dryopteris</i>	oak fern
	WOOGLA	<i>Woodsia glabella</i>	smooth woodsia
<b>Club moss</b>			
	LYCALP	<i>Lycopodium alpinum</i>	alpine clubmoss
	LYCANN	<i>Lycopodium annotinum</i>	stiff clubmoss
	LYCCLA	<i>Lycopodium clavatum</i>	running clubmoss
	LYCCOM	<i>Lycopodium complanatum</i>	ground cedar
	LYCOBS	<i>Lycopodium obscurum</i>	ground pine
<b>Lichen</b>			
	BRYFUS	<i>Bryoria fuscescens</i>	speckled horsehair
	CETISL	<i>Cetraria islandica</i>	Iceland lichen
	CETDEL	<i>Cetrariella deliseii</i>	snow-bed Iceland lichen
	CLAMIT	<i>Cladina mitis</i>	yellow reindeer lichen
	CLARAN	<i>Cladina rangiferina</i>	green reindeer lichen
	CLASTE	<i>Cladina stellaris</i>	star reindeer lichen
	CLABEL	<i>Cladonia bellidiflora</i>	toy soldier lichen
	CLABOT	<i>Cladonia botrytes</i>	wooden soldier lichen
	CLACAR	<i>Cladonia cariosa</i>	split-peg lichen
	CLACEN	<i>Cladonia cenotea</i>	powdered funnel cladonia
	CLACHL	<i>Cladonia chlorophaea</i>	mealy pixie cup
	CLACOC	<i>Cladonia coccifera</i>	pixie cup lichen
	CLACON	<i>Cladonia coniocraea</i>	common powder lichen
	CLACOR	<i>Cladonia cornuta</i>	bighorn cladonia
	CLACRI	<i>Cladonia crispata</i>	organ-pipe lichen
	CLADEF	<i>Cladonia deformis</i>	lesser sulphur cup lichen
	CLAECM	<i>Cladonia ecmocyna</i>	frosted cladonia
	CLAGRA	<i>Cladonia gracilis</i>	smooth cladonia
	CLAMAC	<i>Cladonia macilenta (bacillaris)</i>	lipstick powderhorn lichen
	CLAMUL	<i>Cladonia multiformis</i>	sieve lichen
	CLASQU	<i>Cladonia squamosa</i>	dragon cladonia
	CLAUNC	<i>Cladonia uncialis</i>	thorn cladonia
	CLAspp	<i>Cladonia species</i>	Cladonia species
	DACARC	<i>Dactylina arctica</i>	Arctic finger lichen
	EVEMES	<i>Evernia mesomorpha</i>	boreal oakmoss lichen
	FLACUC	<i>Favocetraria cucillata (Cetraria cucullata)</i>	
	FLANIV	<i>Flavocetraria nivalis (Cetraria nivalis)</i>	snow lichen
	HYPPHY	<i>Hypogymnia physodes</i>	hooded tube lichen
	LEPSAT	<i>Leptogium saturninum</i>	saturn skin lichen
	LOBLIN	<i>Lobaria linita</i>	cabbage lungwort
	LOBPUL	<i>Lobaria pulmonaria</i>	lungwort
	MASRIC	<i>Masonhalea richardsonii</i>	arctic tumbleweed lichen
	NEPARC	<i>Nephroma arcticum</i>	arctic kidney lichen
	NEPEXP	<i>Nephroma expallidum</i>	alpines kidney lichen
	NEPspp	<i>Nephroma species</i>	



	PANPEZ	<i>Pannaria pezizoides</i>	matted lichen
	PARSUL	<i>Parmelia sulcata</i>	hammered shield lichen
	PARAMB	<i>Parmeliopsis ambigua</i>	green starburst
	PELAPH	<i>Peltigera aphthosa</i>	freckled pelt lichen
	PELCAN	<i>Peltigera canina</i>	dog lichen
	PELMAL	<i>Peltigera malacea</i>	veinless pelt lichen
	PELNEO	<i>Peltigera neopolydactyla</i>	carpet pelt lichen
	PELPOL	<i>Peltigera polydactyla</i>	many-fruited pelt lichen
	PELVEN	<i>Peltigera venosa</i>	fan lichen
	PLAGLA	<i>Platismatia glauca</i>	varied rag lichen
	STEALP	<i>Stereocaulon alpinum</i>	alpine snow lichen
	STEsp	<i>Stereocaulon</i> species	
	USNSUB	<i>Usnea subfloridana</i>	beard lichen
	VULPIN	<i>Vulpicida pinastris</i> ( <i>Cetraria pinastris</i> )	
	VULTIL	<i>Vulpicida tilesii</i> ( <i>Cetraria tilesii</i> )	limestone sunshire lichen
	lichen	lichen species	

### Moss

	ABIABI	<i>Abietinella abietina</i> ( <i>Thuidium abietinum</i> )	wiry fern moss
	AULPAL	<i>Aulacomnium palustre</i>	aulacomnium moss
	AULTUR	<i>Aulacomnium turgidum</i>	turgid aulacomnium moss
	BRASAL	<i>Brachythecium salebrosum</i>	golden ragged moss
	CAMSTE	<i>Campylium stellatum</i>	golden star moss
	CIRCIR	<i>Cirriphyllum cirrosum</i>	cirriphyllum moss
	CLIDEN	<i>Climacium dendroides</i>	tree climacium moss
	DICspp	<i>Dicranum</i> species	
	HEDCIL	<i>Hedwigia ciliata</i>	ciliate hedwigia moss
	HYLSPL	<i>Hylocomium splendens</i>	step moss
	HYP SUB	<i>Hypnum subimponens</i>	hypnum moss
	PHIFON	<i>Philonotis fontana</i>	spring moss
	PLAMED	<i>Plagiomnium medium</i>	common leafy moss
	PLESCH	<i>Pleurozium schreberi</i>	red-stemmed feather moss
	POLCOM	<i>Polytrichum commune</i>	common haircap moss
	POLJUN	<i>Polytrichum juniperinum</i>	juniper haircap moss
	POLPIL	<i>Polytrichum piliferum</i>	awned haircap moss
	PTICRI	<i>Ptilium crista-castrensis</i>	knight's plume moss
	RHIGLA	<i>Rhizomnium glabrescens</i>	large leafy moss
	RHYRUG	<i>Rhytidium rugosum</i>	crumpled-leaf moss
	SANUNC	<i>Sanionia uncinata</i> ( <i>Drepanocladus uncinatus</i> )	sickle moss
	SPHspp	<i>Sphagnum</i> species	
	SPLLUT	<i>Splachnum luteum</i>	yellow moosedung moss
	TIM AUS	<i>Timmia austriaca</i>	false polytrichum moss
	TOMNIT	<i>Tomenthypnum nitens</i>	golden fuzzy fen moss
	moss	moss species	

Liverwort			
	LEPREP	<i>Lepidozia reptans</i>	little-hands liverwort
	LOPVEN	<i>Lophozia ventricosa</i>	tri-tip leafy liverwort
	MARPOL	<i>Marchantia polymorpha</i>	green tongue liverwort

## Agricultural and Forestry Experiment Station

University of Alaska Fairbanks  
 AFES Publications Office  
 P.O. Box 757200  
 Fairbanks, AK 99775-7200  
 fynrpub@uaf.edu • www.uaf.edu/snras  
 907.474.6923 or 907.474.5042  
 fax: 907.474.6184

*NOTE: Miscellaneous publications are published by the Alaska Agricultural and Forestry Experiment Station to provide information summarizing research, and are usually written for a specific lay audience. They often present information that would otherwise only be available as journal articles or specialized flyers available only to a limited professional audience. They may consist of secondary information or be a bulletin or journal article summary.*

*To simplify terminology, we may use product or equipment trade names. We are not endorsing products or firms mentioned. Publication material may be reprinted provided no endorsement of a commercial product is stated or implied. Please credit the researchers involved, the University of Alaska Fairbanks, and the Agricultural and Forestry Experiment Station.*

*The University of Alaska Fairbanks is accredited by the Commission on Colleges and Universities of the Northwest Association of Schools and Colleges. UAF is an affirmative action/equal opportunity employer and educational institution.*

agricultural & forestry  
 experiment station



## About the Agricultural & Forestry Experiment Station

The federal Hatch Act of 1887 authorized establishment of agricultural experiment stations in the U.S. and its territories to provide science-based research information to farmers. There are agricultural experiment stations in each of the 50 states, Puerto Rico, and Guam. All but one are part of the land-grant college system. The Morrill Act established the land-grant colleges in 1862. While the experiment stations perform agricultural research, the land-grant colleges provide education in the science and economics of agriculture.

The Alaska Agricultural Experiment Station was not originally part of the Alaska land-grant college system. In 1898, the station was established in Sitka, also the site of Alaska's first experiment farm. Subsequent branches were opened at Kodiak, Kenai, Rampart, Copper Center, Fairbanks, and Matanuska. The latter two remain as the Fairbanks Experiment Farm and the Matanuska Experiment Farm. The USDA established the Fairbanks experiment station in 1906 on a site that in 1915 provided land for a college. The land transfer and money to establish the Alaska Agricultural College and School of Mines was approved by the U.S. Congress in 1915. Two years later the Alaska Territorial Legislature added funding, and in 1922, when the first building was constructed, the college opened its doors to students. The first student graduated in 1923. In 1931, the experiment station was transferred from federal ownership to the college, and in 1935 the college was renamed the University of Alaska. When campuses were opened at other locations, the Fairbanks campus became the University of Alaska Fairbanks.

Early experiment station researchers developed adapted cultivars of grains, grasses, potatoes, and berries, and introduced many vegetable cultivars appropriate to Alaska. Animal and poultry management was also important. This work continues, as does research in soils and revegetation, forest ecology and management, and rural and economic development. As the state faces new challenges in agriculture and resource management, the Agricultural and Forestry Experiment Station continues to bring state-of-the-art research information to the people of Alaska.

